



# State of Utah

DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

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May 15, 2003

## CERTIFIED RETURN RECEIPT

7099 3400 0016 8896 2239

Lon Thomas  
Star Stone Quarries, Inc.  
4040 South 300 West  
Salt Lake City, Utah 84107

Re: Notice of Tentative Approval, Large Mine Plan Permit Amendment, Star Stone Quarries, Inc., Cotton Thomas Mine, M/003/024, Box Elder County, Utah

Dear Mr. Thomas:

On March 6, 2003, we received your application to amend the Cotton Thomas Quarry large mining permit. After reviewing the submittal, *we hereby grant tentative approval* of the permit amendment. However, ***before final approval can be issued, Star Stone Quarries will need to acknowledge the corrections and clarifications made in the attached review document and submit a revised reclamation surety amount.***

Because the total disturbed acreage for this project will increase by 23.25 acres, the reclamation surety amount must be adjusted. Since the current (\$105,200) surety was calculated using 1999 unit costs, we have updated the cost estimate using current unit costs and re-escalated the new surety for the next five-year period. A simple update of the existing surety amount using current unit costs (with no increase in surface disturbance), would increase the reclamation cost estimate to \$145,600.00. The additional 23.25 acres tied to this amendment adds an additional \$64,700.00 to the reclamation cost, bringing the final cost estimate to \$210,300.00.

The additional amount of surety can be submitted by a surety rider, or by providing a new form of surety for the \$105,100.00 balance. The reclamation contract will also need to be revised to reflect the change in disturbed acreage and amount of reclamation surety. Please contact

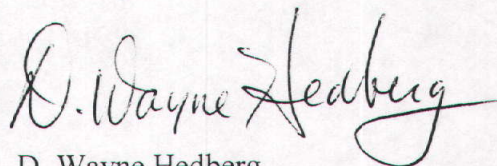


Page 2  
Lon Thomas  
M/003/024  
May 15, 2003

Joelle Burns at (801) 538-5291, for the correct bonding and reclamation contract forms, or download the forms from our website at: [www.ogm.utah.gov](http://www.ogm.utah.gov).

Please provide your confirmation of the attached plan clarifications and the revised surety amount to our office by June 20, 2003. If the new surety amount is not received by this date, we may withdraw our tentative approval and seek appropriate enforcement action to resolve the outstanding permitting issues. If you have any questions regarding this letter please contact me, or Lynn Kunzler at 538-5286 and 538-5310, respectively. If you wish to arrange a meeting to sit down and discuss this letter, please contact us at your earliest convenience. *Please remember that no mining disturbance is authorized outside of the current approved area, without our prior written approval.*

Sincerely,



D. Wayne Hedberg  
Permit Supervisor  
Minerals Regulatory Program

jb  
Attachment: Amendment Initial Review  
cc: Mike Ford, BLM  
Mary Ann Wright, OGM  
O:\M003-Box Elder\m0030024-cotton thomas\final\amend-rev-05152003.doc



**INITIAL REVIEW OF PERMIT AMENDMENT**  
(Received March 6, 2003)

Star Stone Quarries, Inc.  
Cotton Thomas Quarry

M/003/024

**R647-4-106 - Operation Plan**

- 106.3 Estimated acreages disturbed, reclaimed, annually.  
This amendment includes increasing the permitted acreage at three quarry pits. The 'Buckskin' area will be increased by 4.21 acres, the 'Autumn Gold' area will be increased by 1.6 acres, and the Aspen Frost/Klondike Gold area will be increased by 14.54 acres. An additional 1.6 acres is added to the permit because several roads were either widened, since the permit was originally approved (roads #1 and #2), or were constructed wider than originally anticipated (road #10). The main access road will also be re-aligned, and the old alignment will be reclaimed after the new alignment is constructed. This will involve an estimated 1.3 acres. We can apply the previously approved variance from reclamation (from the old alignment) to this new alignment. However, we will need to add the acreage and increase the reclamation surety to cover the reclamation costs of the old alignment until reclamation is determined to be successful. The total increase in the disturbed area due to this amendment is 23.25 acres (not the estimated 19 acres identified in your amendment). (LK)

Map #1 identifies 4.16 acres to be reclaimed during the 2003 season, not the 9 acres that you estimated. In addition to the 4.16 acres, the 'camp' area (1.66 acres) was also identified for release. The current plan identifies the 'camp' area as a topsoil (growth medium) borrow area for final reclamation. We previously approved a revegetation variance for the 'camp' area to facilitate post-mining use of the property. Because the area is still being used for mining-related activities, and it is identified as a source of topsoil for final project reclamation, we cannot eliminate the 'camp' area until the entire site is reclaimed. Also, we cannot reduce the reclamation surety, or the permit acreage for the areas to be reclaimed, until reclamation is completed and determined to be successful.

*Note - since the reclamation surety does not include any reclamation cost associated with the 'camp', there is no advantage to remove it from the permit at this time.* (LK)

Plans submitted on October 4, 2002, to re-locate the 'North Granite' quarry have been dropped and are no longer considered a part of this amendment. (LK)

**R647-4-110 - Reclamation Plan**

- 110.2 Roads, highwalls, slopes, drainages, pits, etc., reclaimed  
Refer to comments under R647-4-111.8 - (LK)

**R647-4-111 - Reclamation Practices**

- 111.8 All roads & pads reclaimed

On Map #2, you have identified several roads to be added to the variance from reclamation so that they may remain for post mining land use purposes (these include roads #2, #6, #7, #8, #10, #11, and #12). To date, the only roads for which a variance



from reclamation has been granted, is the road that loops from the camp to the Buckskin quarry, then to the Autumn Gold Quarry and back to the camp (identified as road #1 and shown in blue on Map #2). Of these roads, the requested variance for roads #2, #6, #11 and #12 has been denied in the past. With this amendment, you have not provided any additional information that would justify the need to leave these roads for the post-mining land use. Therefore, the variance request is still *denied*. Roads #7 and #8 were to have been reclaimed (along with the West Granite quarry) upon the completion of construction of road #10 last year. You have not provided justification to leave these parallel roads (roads #8 and #10). Therefore, the requested variance to leave roads #7 and #8 is also *denied*.

As indicated on the map, you state that road #10 is needed for access to the north end of the property and for ridge access for windmills. Before the Division can consider leaving roads to access windmills, you will need to demonstrate that the windmills are feasible and likely to occur (provide copies of the appropriate approvals, permits or clearances for zoning and construction of the windmills and their intended use). Access to the north end of the property does have merit. However, final approval to leave this road will not be granted until the end of mining, when the post-mining need for this road can be confirmed. (LK)

#### **R647-4-112 - Variance**

Current variance policy is to temporarily suspend formal approval of post-mining land use variance requests that involve leaving facilities or structures, until the end of mining operations. This is to assure that the facilities or structures are appropriate and in a suitable condition for the intended post-mine use, and that the intended use is justifiable and substantiated. Until then, reclamation costs for these facilities will need to be included in the reclamation surety. If it is confirmed at the end of mining operations that certain facilities and structures are necessary to support the post-mining land use, then the permit and bond amount can be amended accordingly at that time. Please refer to the comments made under R647-4-111.8 as well. (DJ & LK)

#### **R647-4-113 - Surety**

Because of the increased acreage associated with this amendment (23.25 acres), the reclamation surety will need to be adjusted. Typically, when the reclamation surety amount is adjusted, the Division also updates the unit costs associated with the current surety estimate and escalates the surety amount for the next five-year period. Attached is the revised surety estimate for the Cotton Thomas Operations, which includes all of the disturbance associated with this amendment. The revised surety amount must be provided to the Division before we can grant final approval of this amendment. (DJ)



# RECLAMATION SURETY ESTIMATE

THOMAS AMERICAN STONE

Cotton Thomas Operations

M/003/024

Prepared by Utah State Division of Oil, Gas & Mining

last revision

6-May-2003

filename m03-24.wb3

page "summary"

Box Elder County

## THIS PAGE SUMMARIZES THE COSTS FROM THE INDIVIDUAL QUARRY ESTIMATE PAGES

Reclamation of surface rock removal areas will include ripping & broadcast seeding.

Other disturbed areas will receive a minimum 2 inches of topsoil, 10 ton/acre composted manure, & seed.

Areas which are granted a variance from reclamation requirements are listed below.

Other types of variances are described on individual site calculation pages.

-Amount of disturbed area which will receive reclamation treatments = 78.85 acres

-Estimated total disturbed area for this mine = 89.57 acres

MINE SITE OR FEATURE	current permitted acreage	2003 Revised Acreage.	reclamation variance acreage	acreage to be reclaimed	individual site estimates
CAMP AREA	1.66		1.66	0.00	
BUCKSKIN QUARRY	3.91	4.21		8.12	\$20,526
AUTUMN GOLD QUARRY	16.66	1.60	0.00	18.26	\$25,334
ASPEN FROST / KLONDIKE GOLD	7.96	14.54		22.50	\$55,712
ANTIQUE WHITE	1.86		0.00	1.86	combined
LITTLE HEART	1.93			1.93	\$8,054
WINDRIDGE RUBBLE	1.12		0.00	1.12	
NORTH GRANITE	3.52			3.52	combined
EAST GRANITE	2.12		0.00	2.12	
WEST GRANITE	0.47			0.47	\$8,396
SOUTH GRANITE	0.40		0.00	0.40	
TOTAL ACCESS ROADS	24.71	2.90	9.06	18.55	\$37,748

ACREAGE TOTALS 66.32 23.25 10.72 78.85

SUBTOTAL RECLAMATION COSTS \$155,770

	quantity	unit	\$/unit	\$
Equipment mobilization	5	equip	2,000	10,000
dozer, FE loader, trackhoe, truck, fuel/lube truck				
Reclamation Supervision - 10% of Reclamation Estimate				0
		Subtotal		165,770
10% Contingency				16,577
		Subtotal		\$182,347
Escalate for 5 years at 2.89% per yr				27,917
		Total		\$210,264
				\$210,300
Average cost per disturbed acre =				\$3,171

note  
(05)

(7)

note

(05) DOGM general estimate - equipment mobilization

(7) Means 2002, 010-036-0180, project manager, minimum \$2000/wk



1 RECLAMATION SURETY ESTIMATE

2 THOMAS AMERICAN STONE

last revision

6-May-2003

3 Cotton Thomas Operations

filename m03-24.wb3

page "aspen frost/klondike gold"

4 M/003/024

Box Elder County

5 Prepared by Utah State Division of Oil, Gas &amp; Mining

6 THIS PAGE IS FOR RECLAMATION TASKS AT THE ASPEN FROST/KLONDIKE GOLD QUARRI  
7 ACCESS ROADS ARE NOT INCLUDED IN THIS CALCULATION PAGE.8  
9 Reclamation of surface rock removal areas will include ripping & broadcast seeding.

10 Reclamation of other areas: min. 2 inches topsoil, 10 ton/acre composted manure, broadcast seed.

11 Equipment mobilization &amp; supervision are included in the summary page only.

12 Total disturbed area = 22.50 acre total disturbance

13 Topsoil coverage for 22.50 acres requiring topsoil

14 Calculated soil volume for minimum cover 2 inch depth =&gt; 6,050.0 CY

15 Calculated waste fines for 16" cover on 50% excavation area=&gt; 24,200.0 CY

16  
17 Dump regrading assumed as moving volume of fines to cover quarry excavation with 16 inch depth

18 -Amount of disturbed area which will receive reclamation treatments = 22.50 acres

19 -Estimated total disturbed area for this mine = 22.50 acres

Activity	Quantity	Units	\$/unit	\$	Note
Regrading waste dump fines onto quarry	24,200	CY	0.82	19,844	(1)
Ripping waste dump tops - (50% topsoil area)	11.25	acre	246	2,768	(2)
Ripping surface rock removal area	1.7	acre	246	418	(2)
Topsoil haulage - truck & FE loader	5,593	CY	3.47	19,408	(4)
Composted manure (10 ton/acre)	22.50	acre	300	6,750	(01)
Broadcast seeding	22.50	acre	240	5,400	(02)
General site cleanup & trash removal	22.50	acre	50	1,125	(03)
Subtotal				\$55,712	

## Note

- (1) Means 2002 & Blue Book 3Q/02: Cat D8R, U, mtl 2550 lb/CY, 200 ft push
- (2) Means 2002 & Blue Book 3Q/02: Cat D8R, U, multi shank rippers, speed 1.0 mph
- (2) Means 2002 & Blue Book 3Q/02: Cat D8R, U, multi shank rippers, speed 1.0 mph
- (3) Means 2002 & Blue Book 3Q/02: Cat D8R, U, mtl 2550 lb/CY, 150ft push
- (4) Means 2002 022-266-2040: hauling excavated or borrow material, off highway hauler, 22 CY, 2 mi round trip, no loading included \$3.01/CY + DOGM FE load cost \$0.46/CY
- (01) DOGM general estimate - manure \$16/ton delivered, \$14 ton/acre spreading
- (02) DOGM general estimate - broadcast seeding
- (03) DOGM general estimate - site cleanup & trash removal



# RECLAMATION SURETY ESTIMATE

THOMAS AMERICAN STONE

Cotton Thomas Operations

M/003/024

Prepared by Utah State Division of Oil, Gas & Mining

last revision

6-May-2003

filename m03-24.wb3

page "autumn gold"

Box Elder County

THIS PAGE IS FOR RECLAMATION TASKS AT THE AUTUMN GOLD QUARRY ONLY.  
ACCESS ROADS ARE NOT INCLUDED IN THIS CALCULATION PAGE.

This page includes reclamation of 4.12 acres of surface rock removal listed as "casual use."

Reclamation of surface rock removal areas will include ripping & broadcast seeding.

Reclamation of other areas: 2 inches of topsoil, 10 ton/acre composted manure, broadcast seed.

Equipment mobilization & supervision are included in the summary page only.

Total disturbed area (16.66+ 1.60) = 18.26 acres total disturbance

Topsoil coverage for 9.14 acres requiring topsoil

Calculated soil volume for minimum cover 2 inch depth => 2,457.6 CY

Calculated waste fines for 16" cover on 50% excavation area=> 9,830.6 CY

Dump regrading assumed as moving volume of fines to cover quarry excavation with 16 inch dep

Previous variance granted by the Division to allow 12 ft highwalls to remain.

Variance granted by the Division did not require topsoil salvage at initial 5 acre quarry excavation

**-Amount of disturbed area which will receive reclamation treatments 17.93 acres**

**-Estimated total disturbed area for this mine = 17.93 acres**

Activity	Quantity	Units	\$/unit	\$	Note
Regrading waste dump fines onto quarry	9,831	CY	0.82	8,061	(1)
Ripping waste dump tops - (50% topsoil area)	4.57	acre	246	1,124	(2)
Ripping surface rock removal area	6.10	acre	246	1,501	(2)
Topsoil haulage - truck & FE loader	1,225	CY	3.47	4,251	(4)
Topsoil replacement (dozer)	4.57	acre	246	1,124	
Composted manure (10 ton/acre)	13.26	acre	300	3,978	(01)
Broadcast seeding	18.26	acre	240	4,382	(02)
General site cleanup & trash removal	18.26	acre	50	913	(03)
Subtotal				<b>\$25,334</b>	

## Note

- (1) Means 1999 & Blue Book 3Q/99: Cat D8R, U, mtl 2550 lb/CY, 200 ft push
- (2) Means 1999 & Blue Book 3Q/99: Cat D8R, U, multi shank rippers, speed 1.0 mph
- (2) Means 1999 & Blue Book 3Q/99: Cat D8R, U, multi shank rippers, speed 1.0 mph
- (3) Means 1999 & Blue Book 3Q/99: Cat D8R, U, mtl 2550 lb/CY, 150 ft push
- (4) Means 1999 022-266-2040: hauling excavated or borrow material, off highway hauler, 22 CY, 2 mi round trip, no loading included \$3.01/CY + DOGM FE load cost \$0.46/CY
- (01) DOGM general estimate - manure \$16/ton delivered, \$14 ton/acre spreading
- (02) DOGM general estimate - broadcast seeding
- (03) DOGM general estimate - site cleanup & trash removal



1	RECLAMATION SURETY ESTIMATE	last revision	6-May-2003
2	THOMAS AMERICAN STONE	filename m03-24.wb3	page "buckskin"
3	Cotton Thomas Operations	Box Elder County	
4	M/003/024		
5	Prepared by Utah State Division of Oil, Gas & Mining		
6	THIS PAGE IS FOR RECLAMATION TASKS AT THE BUCKSKIN QUARRY ONLY.		
7	ACCESS ROADS ARE NOT INCLUDED IN THIS CALCULATION PAGE.		
8	This page includes reclamation of 0.00 acres of surface rock removal listed as "casual use."		
9	Reclamation of other areas: 2 inches of topsoil, 10 ton/acre composted manure, broadcast seed.		
10	Equipment mobilization & supervision are included in the summary page only.		
11	Total disturbed area =	8.12 acres total disturbance	
12	Topsoil coverage for	8.12 acres requiring topsoil	
13	Calculated soil volume for minimum cover	2 inch depth =>	2,183.4 CY
14	Calculated waste fines for 16" cover on	50% excavation area=>	8,733.5 CY
15			
16	Dump regrading assumed as moving volume of fines to cover quarry excavation with 16 inch depth.		
17	-Amount of disturbed area which will receive reclamation treatments =	8.12 acres	
18	-Estimated total disturbed area for this mine =	8.12 acres	
19	Activity	Quantity	Units
20	Regrading waste dump fines onto quarry	8,734	CY
21	Ripping waste dump tops - (50% topsoil area)	4.06	acre
22			
23	Ripping casual use stone removal area	0.00	acre
24			
25			
26	Topsoil replacement - truck & FE loader	2,183	CY
27			
28	Composted manure (10 ton/acre)	8.12	acre
29	Broadcast seeding	8.12	acre
30			
31	General site cleanup & trash removal	8.12	acre
32			
33		Subtotal	\$20,526
34			

Note	
(1)	Means 2002 & Blue Book 3Q/02: Cat D8R, U, mtl 2550 lb/CY, 200 ft push
(2)	Means 2002 & Blue Book 3Q/02: Cat D8R, U, multi shank rippers, speed 1.0 mph
(2)	Means 2002 & Blue Book 3Q/02: Cat D8R, U, multi shank rippers, speed 1.0 mph
(3)	Means 2002 & Blue Book 3Q/02: Cat D8R, U, mtl 2550 lb/CY, 150 ft push
(4)	Means 2002 022-266-2040: hauling excavated or borrow material, off highway hauler, 22 CY, 2 mi round trip, no loading included \$3.01/CY + DOGM FE load cost \$0.46/CY
(01)	DOGM general estimate - manure \$16/ton delivered, \$14 ton/acre spreading
(02)	DOGM general estimate - broadcast seeding
(03)	DOGM general estimate - site cleanup & trash removal



# RECLAMATION SURETY STATE

THOMAS AMERICAN STONE

Cotton Thomas Operations

M/003/024

Prepared by Utah State Division of Oil, Gas & Mining

last revision

6-May-2003

filename m03-24.wb3

page "4\_granite\_quarries"

Box Elder County

THIS PAGE IS FOR RECLAMATION TASKS AT THE N, W, S & EAST GRANITE QUARRIES.  
ACCESS ROADS ARE NOT INCLUDED IN THIS CALCULATION PAGE.

This page includes reclamation of 0.00 acres of surface rock removal listed as "casual use."

Reclamation of surface rock removal areas will include ripping & broadcast seeding.

Reclamation of other areas: 2 inches of topsoil, 10 ton/acre composted manure, broadcast see

Equipment mobilization & supervision are included in the summary page only.

Total disturbed area (3.52+0.47+0.40+2.12) = 6.51 acres total disturbance

Topsoil coverage for 6.51 acres requiring topsoil

Calculated soil volume for minimum cov 2 inch depth => 1,750.5 CY

Calculated waste fines for 16" cover on 10% excavation area=> 1,400.4 CY

Assumed 30% of calculated topsoil volume is from the camp borrow site & 70% at the quarry.

Dump regrading assumed as moving volume of fines to cover quarry excavation with 16 inch d

**-Amount of disturbed area which will receive reclamation treatment 6.51 acres**

**-Estimated total disturbed area for this mine = 6.51 acres**

Activity	Quantity	Units	\$/unit	\$	Note
Regrading waste dump fines onto quarry	1,400	CY	0.82	1,148	(1)
Ripping waste dump tops - (50% topsoil area)	3.26	acre	246	801	(2)
Ripping casual use stone removal area	0.00	acre	246	0	(2)
Topsoil spreading - dozer (70% total vol.)	1,225	CY	0.64	784	
Topsoil haulage - truck & FE loader (30%)	525	CY	3.47	1,822	(4)
Composted manure (10 ton/acre)	6.51	acre	300	1,953	(01)
Broadcast seeding	6.51	acre	240	1,562	(02)
General site cleanup & trash removal	6.51	acre	50	326	(03)
Subtotal				<b>\$8,396</b>	

## Note

- (1) Means 2002 & Blue Book 3Q/02: Cat D8R, U, mtl 2550 lb/CY, 200 ft push
- (2) Means 2002 & Blue Book 3Q/02: Cat D8R, U, multi shank rippers, speed 1.0 mph
- (2) Means 2002 & Blue Book 3Q/02: Cat D8R, U, multi shank rippers, speed 1.0 mph
- (3) Means 2002 & Blue Book 3Q/02: Cat D8R, U, mtl 2550 lb/CY, 150 ft push
- (4) Means 2002 022-266-2040: hauling excavated or borrow material, off highway hauler, 22 CY, 2 mi round trip, no loading included \$3.01/CY + DOGM FE load cost \$0.46/CY
- (01) DOGM general estimate - manure \$16/ton delivered, \$14 ton/acre spreading
- (02) DOGM general estimate - broadcast seeding
- (03) DOGM general estimate - site cleanup & trash removal



1	RECLAMATION SURETY ESTIMATE	last revision	6-May-2003			
2	THOMAS AMERICAN STONE	filename m03-24.wb3	page "3 Qs"	"little heart"		
3	Cotton Thomas Operations	Box Elder County		"windridge rubb"		
4	M/003/024			"antique white"		
5	Prepared by Utah State Division of Oil, Gas & Mining					
6	RECLAMATION TASKS AT THE ANTIQUE WHITE, LITTLE HEART & WINDRIDGE RUBBLE					
7	ACCESS ROADS ARE NOT INCLUDED IN THIS CALCULATION PAGE.					
8	This page includes reclamation of 0.87 +0.80 acres of surface rock removal listed as "casual use."					
9	Reclamation of surface rock removal areas will include ripping & broadcast seeding.					
10	Reclamation of other areas: 2 inches of topsoil, 10 ton/acre composted manure, broadcast seed.					
11	Equipment mobilization & supervision are included in the summary page only.					
12	Total disturbed area (1.86+1.13+0.87+0.80 +0.25)=	4.91 acres total disturbance				
13	Topsoil coverage for	3.74 acres requiring topsoil				
14	Calculated soil volume for minimum cover	2 inch depth =>	1,005.6 CY			
15	Calculated waste fines for 16" cover on	50% excavation area=>	4,022.6 CY			
16	Assumed 30% of calculated topsoil volume is from the camp borrow site & 70% at the quarry.					
17	Dump regrading assumed as moving volume of fines to cover quarry excavation with 16 inch dept					
18	<b>-Amount of disturbed area which will receive reclamation treatments =</b>			<b>4.91 acres</b>		
19	<b>-Estimated total disturbed area for this mine =</b>			<b>4.91 acres</b>		
20	<u>Activity</u>	<u>Quantity</u>	<u>Units</u>	<u>\$/unit</u>	<u>\$</u>	<u>Note</u>
21	Regrading waste dump fines onto quarry	4,023	CY	0.82	3,299	(1)
22	Ripping waste dump tops - (50% topsoil area)	1.87	acre	246	460	(2)
23						
24	Ripping surface rock removal areas	1.05	acre	246	258	(2)
25						
26	Topsoil spreading - dozer (70% total vol)	704	CY	0.64	451	(3)
27	Topsoil haulage - truck & FE loader(30%)	302	CY	3.47	1,047	(4)
28						
29	Composted manure (10 ton/acre)	3.74	acre	300	1,122	(01)
30	Broadcast seeding	4.91	acre	240	1,178	(02)
31						
32	General site cleanup & trash removal	4.79	acre	50	240	(03)
33						
34			Subtotal		<b>\$8,054</b>	
35	Average cost per disturbed acre =	\$1,640				
<b>Note</b>						
(1)	Means 2002 & Blue Book 3Q/02: Cat D8R, U, mtl 2550 lb/CY, 200 ft push					
(2)	Means 2002 & Blue Book 3Q/02: Cat D8R, U, multi shank rippers, speed 1.0 mph					
(2)	Means 2002 & Blue Book 3Q/02: Cat D8R, U, multi shank rippers, speed 1.0 mph					
(3)	Means 2002 & Blue Book 3Q/02: Cat D8R, U, mtl 2550 lb/CY, 150 ft push					
(4)	Means 2002 022-266-2040: hauling excavated or borrow material, off highway hauler, 22 CY, 2 mi round					
(01)	DOGM general estimate - manure \$16/ton delivered, \$14 ton/acre spreading					
(02)	DOGM general estimate - broadcast seeding					
(03)	DOGM general estimate - site cleanup & trash removal					



# RECLAMATION SURETY ESTIMATE

THOMAS AMERICAN STONE

Cotton Thomas Operations

M/003/024

Prepared by Utah State Division of Oil, Gas & Mining

last revision

6-May-2003

filename m03-24.wb3

page "cotton roads"

Box Elder County

## THIS PAGE IS FOR RECLAMATION TASKS FOR ACCESS ROADS ONLY

Road disturbances to receive 5 ton/acre of composted manure.

Road disturbances will not receive additional topsoil placement.

Equipment mobilization & supervision are included in the summary page only.

Road reclamation includes ripping or regrading, composted manure & seeding unless stated otherwise.

Approximately 1.0 mile x 16 ft road (1.93 acre) is expected to require trackhoe regrading.

ROAD DESCRIPTION	length	width(ft)	acreage	variance	
1. Loop Road (camp-autumn gold-buckskin-camp)	21290	20	9.78	9.06	
2. Camp to Antique White	1850	16	0.68	no	widened
3. Camp to Autumn Gold	3515	14	1.13	no	
4. Autumn Gold to Aspen Frost/Klondike Gold	2090	18	0.86	no	
5. Access to Little Heart	1200	16	0.44	no	
6. Access to Windridge Rubble	3260	20	1.50	no	
7. Buckskin to South Granite	1850	18	0.76	no	
8. Access to North & West Granite)	6620	16	2.43	no	
9. Access to East Granite	3835	16	1.41	no	
10. Buckskin to North Granite via ridge	8190	23	4.32	no	widened
11. Access to Briggs Quarry	4800	20	2.20	no	
12. Windridge Rubble to Mahogany Draw	1930	18	0.80	no	widened
13. New Access Road	2835	20	1.30		

Total road disturbance

27.62

Road disturbance granted a variance from reclamation & reclaimed

9.06

Road disturbance being reclaimed

18.56

Road disturbance requiring trackhoe work

8.32

Road disturbance requiring dozer ripping

10.24

**-Amount of road disturbance which will receive reclamation treatments**

18.56 acres

**-Estimated total road disturbed area for this mine =**

27.62 acres

Activity	Quantity	Units	\$/unit	\$	Note
Ripping access roads - dozer	10.24	acre	613	6,276	(2)
Regrading access roads - dozer	0.00	acre	613	0	(5)
Sidecast mtl replacement on steep roads- trackhoe	18,283	LF	1.25	22,854	(6)
Composted manure - roads (5 ton/acre)	18.56	acre	150	2,784	(04)
Broadcast seeding	18.56	acre	240	4,454	(02)
General site cleanup & trash removal	27.62	acre	50	1,381	(03)
		Subtotal		<b>\$37,748</b>	
Average cost per disturbed acre =	\$1,367				

### Note

- (2) Means 2002 & Blue Book 3Q/02: Cat D8R, U, multi shank rippers, speed 1.0 mph
- (5) Means 2002 & Blue Book 3Q/02: Cat D8R, U, mtl 2550 lb/CY, 50 ft push, 1 ft depth
- (6) Contractor's actual costs, 1991 at E/053/012, Cat 225 Excavator, 20 ft wide road \$0.85/LF cost escalated to 2002 as \$1.25/LF
- (04) DOGM general estimate - manure \$16/ton delivered, \$14 ton/acre spreading
- (02) DOGM general estimate - broadcast seeding
- (03) DOGM general estimate - site cleanup & trash removal